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ACCOUNTING EDUCATION AND STRENGTHENING OF THE PROFESSION:
COMPARATIVE STUDY OF CURRICULA FOR ACCOUNTANTS AND
AUDITORS IN AFRICA, ASIA, EUROPE, LATIN AMERICA AND NORTH
AMERICA, INCLUDING PRE-QUALIFICATION AND CONTINUING
EDUCATION PROGRAMMES IN PUBLIC AND PRIVATE INSTITUTIONS
AND EXAMINATION AND CERTIFICATION PROGRAMMES

Global review of the state of accounting and auditing
education and training

Report of the Secretary-General

SUMMARY

The present report is concerned explicitly with the current state of accounting education. It constitutes a global view based on responses to a questionnaire sent to all member Governments. As such, it provides a unique opportunity to draw conclusions from a large sample (83 questionnaires returned), across many countries (62), and thereby enhances the state of knowledge of global accounting and auditing education. The average profile of the accounting education system that emerges from the data reveals a technically oriented curriculum taught by underpaid (and frequently inadequately prepared) faculty, who sometimes use irrelevant teaching

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materials. It is to the credit of accounting instructors around the world that given all these obstacles, they are still able to meet (albeit only moderately) the quality demands of the profession. Since a positive correlation was found between the quality and status of the profession on the one hand and the quality of accounting education in a given country on the other, recommendations for improving accounting education are made in this report.

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INTRODUCTION

1. During its tenth session, the Intergovernmental Working Group of Experts on International Standards of Accounting and Reporting decided to devote its eleventh session to one topic, accounting education. The purpose would be to examine in depth the role and responsibilities of accountants in the global economy and to determine, if possible, whether accounting education was adequately preparing accountants for their role and responsibilities. The present report is concerned explicitly with the existing state of things. It provides a global review of the current state of accounting and auditing education and training (hereinafter referred to as AAET) based on responses to a questionnaire distributed by the United Nations to all member Governments.

2. The education of accountants is critical in terms of the ability of the accounting profession to meet its ever-expanding responsibilities; therefore, gaining an understanding of the current state of accounting education is extremely worthwhile. Accounting is a profession that requires analytical skills and a decision-making orientation, as well as mastery of standards, procedures and techniques. Only if the work of accountants and of the accounting profession is viewed in this manner will the profession draw to itself the best and the brightest, as well as earn the respect of users and the public at large.

3. In any country, the state of the profession and the state of accounting education are inseparable. In a country where accountants are respected, accounting education will achieve high quality, and such high-quality education will in turn provide the profession with better accountants. These relationships will be discussed in more detail throughout the remaining portions of this report, and in particular in section III.

4. In the following section, a brief review is provided of the recent literature on accounting and auditing education and training. Section II contains an analysis and discussion of survey observations on the state of the accounting profession and accounting education in over 40 countries from around the globe. Section III provides a statistical analysis of the links between the accounting profession and accounting education, while section IV, which concludes the report, makes recommendations regarding the possible means to improve the quality of accounting and auditing education and training.

5. As noted, the concluding section does include recommendations that are based on the analysis of the data. None the less, this report does not generally focus on such questions as what ought to be. Other reports to the Working Group at its eleventh session are devoted to the issue of the responsibilities of the accounting profession and the direction of AAET. There are also reports to the Working Group at this session devoted to a country analysis, and those reports will shed more light at the national level on the unique aspects of the issues under consideration. From the country analyses, a regional picture emerges.

I. LITERATURE REVIEW

6. The present section provides a brief review of recent literature on accounting and auditing education and training (AAET). The review is not intended to be comprehensive, but rather to describe the existing state of knowledge as available in a subset of the accounting literature found in the United States of America. The purpose of this review is to help focus upon the great diversity of the approaches to accounting education that exists around the globe and to set the stage for a discussion of the results of the survey as reflected in the data contained in the questionnaires. To ensure that the scope of the review does not exceed the scope of this report, articles concerning the future of accounting education (what ought to be) are not cited or reviewed. 1/

7. The studies discussed can be classified as either single-country studies or cross-country ones.

Single-country studies

8. Single-country studies constitute the largest category by far. Some of the more recent studies in this category are included in a 1990 publication from the Center for International Education and Research in Accounting of the University of Illinois at Champaign-Urbana. That publication contains country studies, for example, on Bangladesh, Barbados, Belgium, Canada, France, Germany, India, Indonesia, Panama and the United Kingdom of Great Britain and Northern Ireland. Other important sources are the Proceedings of the Sixth International Conference on Accounting Education (1987) and the forthcoming proceedings of the Seventh International Conference on Accounting Education (1992). In addition, there is the newly inaugurated European Accounting Review, which consists mostly of single-country studies, but also offers a regional focus.

9. The studies referenced above, as well as other, similar ones, provide a detailed description of the state of accounting education in a single country, either with or without references to other countries used as models for emulation or benchmarks for comparison. The importance of these studies lies in the fact that they provide the background and the foundation for all meaningful international research.

10. Naturally, such studies are primarily concerned with accounting education systems in the author's country, where data are likely to be more available. However, this body of work is not without its weaknesses, which will be addressed later on in this section.

Cross-country studies

11. Cross-country studies constitute the second major category of literature relating to accounting and auditing education and training. Those studies compare specifically and explicitly the education systems of two or more countries, or of countries within a single region. Owing to their objective,

they are usually more structured and less comprehensive than single-country studies. Included in the cross-country studies category is the work of Hassan (1987), involving a United Kingdom-United States comparison; of Loft (1987), which compares the educating and certifying of auditors in England and Denmark; and of Anyane-Ntow (1992), which analyses accounting education and certification in 26 countries. The contribution of this group of studies has been in the area of the modelling of accounting education systems, and that contribution has included the ability to draw broader conclusions about the state of global accounting education.

Evaluation

12. There are problems inherent in most accounting and auditing education studies, such as those discussed above. Most important, there is not a single reference point across all studies, nor do they necessarily ask similar research questions. For example, in the recent collection of country studies published by the University of Illinois, the subject of the research questions ranged from the education of professional accountants to the relation between accounting education and economic change under five-year plans. While each study is in and by itself interesting and informative, the results and conclusions may be relative only to a specific reference point - that taken by the study's individual authors.

13. None the less, an interesting picture does emerge upon reviewing the results of these studies. There is a great diversity among the accounting education systems and philosophies that exist around the globe. Some education models approach accounting as a technical skill, while others view it as an analytical profession. This difference in approach is evident in the composition of courses within a particular accounting programme. Accounting programmes that take the view of accounting as a technical skill concentrate heavily on specific accounting courses, that is, they emphasize the technical and functional courses listed as professional subjects by the International Federation of Accountants (IFAC) (1992). These include financial, managerial and governmental accounting, taxation, auditing, and electronic data processing. Those accounting programmes that adhere to the view of accounting as an analytical profession try to strike a balance among general education, decision-making, skills orientation and required knowledge of specific accounting topics - that is, they place more emphasis on IFAC's list of supportive courses such as business finance, management, economics and business ethics.

14. The following section describes the results of the data analysis that was conducted on the responses to the questionnaires. That analysis sheds some light on trends in accounting education programmes around the globe. The importance of the current project undertaken by the Intergovernmental Working Group of Experts on International Standards of Accounting and Reporting lies in the fact that it provides the capability to draw conclusions from a large sample across many countries, and in so doing, enhances the state of knowledge on global accounting and auditing education and training.

II. ANALYSIS AND DISCUSSION OF SURVEY DATA

15. The present section of this report provides an analysis of the responses to a survey that was conducted in October-November 1992 by the Accounting Section of the Transnational Corporations and Management Division of the Department of Economic and Social Development of the United Nations Secretariat.

Questionnaire distribution and responses

16. The questionnaires were sent to various governmental and professional organizations, and to academic institutions and individuals, in 186 countries. Thus, more than one questionnaire was distributed to each country, the number of questionnaires distributed depending upon the number of appropriate organizations and institutions within the country concerned. The questionnaires were in English, French and Spanish. Responses received in a language other than English were translated into English for the purpose of this analysis. Eighty-three questionnaires were returned by 62 countries. This constitutes a response rate of 33 per cent (higher than the usual rate both for the Working Group's annual note verbale and for a questionnaire of this nature). The Transnational Corporations and Management Division hereby acknowledges, with appreciation, the cooperation of the respondents in providing the information requested.

17. Sixty-eight questionnaires, representing 49 countries, were available for analysis in this report, the remaining 15 questionnaires having arrived too late. Analysis of the questionnaires (table 1) indicates that the 68 responses were distributed fairly evenly among the three major types of respondent: government agency, educational institution and professional organization. It is interesting to note that in the group of countries from which only a single response was received, government agencies contributed almost half of the total responses; on the other hand, in the group of countries from which multiple responses were received, professional organizations provided the large majority of responses, owing to the fact that many of those countries have multiple professional accounting organizations. For example, in the United Kingdom, out of six responses received, five were from professional organizations.

18. Of the 68 questionnaires available for this study, 60 (representing 43 countries) were used in tabulating and analysing the data reported below. In the 12 cases where multiple responses were received from a single country, a single score representing an average of the usable responses was employed. A questionnaire was considered unusable if either the number of missing answers was extremely large or (as was the case in a few instances) its poor physical quality upon return made it impossible to process. In some instances it was clear that the respondent had not provided a relevant response to a specific question; such a response was therefore considered a missing value.

Table 1. Response to survey, by type of responding organization and by country grouping (based on total responses returned)

Type of organization	Questionnaires received from the group of countries returning a total of			Total
	One	Two	Three or more (multiple)	
Government agency	16	2	1	19
Educational institution	5	4	4	13
Professional organization	11	10	9	30
Other	<u>4</u>	<u>0</u>	<u>2</u>	<u>6</u>
Total	36	16	16	68

19. A subset of survey questions concerned with the existing state of things was identified, and the data involved were analysed in two dimensions, one measuring the quality and status of the profession and the other the quality of accounting education. In section III further analysis of the links between the two dimensions is presented. A hypothesis was formulated positing that countries ranking higher within the professional dimension would offer accounting education of a higher quality relative to countries ranking lower.

20. The choice of which variables from the questionnaire to include and of how to measure those variables was based on the experience of the researchers with respect to the accounting profession and accounting education.

Quality and status of the profession

21. Table 2 provides descriptions and summary statistics for the variables that were used to develop the measure of the quality and status of the accounting profession. Further statistics for the variables are presented in annex table A-1.

Table 2. Variables used to develop the measure of the quality and status of the accounting profession

Variable	Number of countries	Mean score	Standard deviation
Professional designations: number of designations existing in a country out of a maximum of four	44	2.6	1.2
Length of examinations: number of hours required for certification examinations	26	13.7	7.6
Required work experience: percentage of countries that require work experience in addition to examinations	39	85	a/
Work experience: required length of work experience (months)	34	32.9	15.3
Programme length: duration of degree programme (months)	43	49.0	9.2
Pre-entry requirements: required length of preparation prior to entering a professional programme (years)	41	12.1	0.5
Granting institutions: number of institutions that grant or offer programmes towards an independent auditor designation (up to 10)	42	4.9	3.4
Correspondence courses: percentage of countries where a correspondence course is not allowed	43	49	a/
Earnings potential: percentage salary increase for auditors or private sector accountants over 10 years	37	282	111.8

a/ Not applicable.

Discussion of table 2

22. The following brief discussion of the quality and status of the accounting profession in the responding countries emerges from an analysis of the variables presented in table 2.

23. Four possible professional designations (accounting technician, government accountant, business sector accountant, and independent auditor) were included in the survey. A greater variety of designations within a

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country implied specialization within, and thus the higher quality of, the profession. On the average, there were 2.6 (out of a possible 4) professional designations per country. The discussion that follows concentrates on the independent auditor designation.

24. Stricter programme requirements for the independent auditor designation, as reflected by programme length (duration in months of the educational programme required for one to be considered an independent auditor) and pre-entry requirements (years of primary and secondary school required to enter such a programme), indicate a higher quality of the profession in the country. The average length of the programme offering the required education is about four years (49 months) and the pre-entry requirement is a high school diploma (12 years).

25. Similarly, stricter degree and certification requirements dictated for independent auditors - as measured by length of the certification examination (in hours), required work experience (supervised apprenticeship) in addition to passing the examinations, and length of work experience (in months) - also indicate a higher-quality profession. The data reveal that certification examinations take almost 14 hours (typically comprising three or four examinations, each between 3-4 hours in length), that 85 per cent of the countries surveyed require work experience in addition to written examinations and that the average duration of required work experience is 33 months (the median score was 36 months). 2/ It is worth noting that the International Federation of Accountants (IFAC) recommends a period of 36 months of required work experience. Thus, it appears that many countries already meet the IFAC guidelines with respect to required work experience.

26. Additionally, a greater number of leading granting institutions (which offer programmes of study leading to the independent auditor designation), and the requirement of attendance at structured classes within academic institutions, versus the allowing of the substitution of correspondence courses, are interpreted as being indicators of a higher-quality accounting profession in a particular country. Since the respondents were able to list up to 10 leading universities on the questionnaire, this number was used as the maximum possible score. On the average, there are five granting institutions per country, but roughly half the countries allow some form of study by correspondence. 3/

27. Finally, an earnings potential variable was calculated, as the percentage increase in the salary of independent auditors (or of business sector accountants, whenever data for auditors were not available) over a 10-year period. This variable is a reasonable measure of the market power and status of the profession; that is, a high-status profession is indicated by a relatively high percentage increase in salary over an individual professional's career, owing to the fact that high-quality individuals are attracted to a profession with a higher earnings potential. As indicated in table 2, the average increase was almost 300 per cent. (The maximum and minimum reported increases, as shown in annex table A-1 were 500 and 130 per cent, respectively, with a median of 250 per cent.)

Quality and status of the accounting education system

28. Table 3 provides descriptions and summary statistics for the variables that were used to develop the measure of the quality and status of accounting and auditing education and training (AAET) in particular countries. Further statistics for the variables are presented in annex table A-2.

Table 3. Variables used to develop the measure of the quality and status of the accounting education system

Variable	Number of countries	Mean score	Standard deviation
Full-time faculty (as percentage of total faculty)	41	68	24
Faculty with Doctor of Philosophy degree (Ph.D.) (as percentage of total faculty)	42	31	34
Faculty with professional certification (as percentage of total faculty)	41	37	34
Faculty salary (entry-level) (as percentage of that of auditors)	37	89	47
Faculty salary (after 10 years) (as percentage of that of auditors)	37	59	30
Programme composition (as percentage deviation of main components from American Assembly of Collegiate Schools of Business (AACSB) guidelines)	42	27	12
Professional courses (out of a maximum of 7 listed courses)	43	5.6	0.9
Support courses (out of a maximum of 11 listed courses)	43	7.7	1.8
Analytical courses (as percentage of countries offering such courses)	43	81	a/
Professional involvement (as percentage of countries where the profession is involved in country AAET)	43	95	a/

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Table 3 (continued)

Variable	Number of countries	Mean score	Standard deviation
Serious programme deficiencies (out of a maximum of 4)	43	1.8	1.1
Monitoring and accreditation of accounting programmes by the Government or the profession (as percentage of countries having such a mechanism in place)	43	72	a/
Product quality: perceived level of quality of preparation of accountants (maximum score = 4)	40	2.9	0.7

a/ Not applicable.

Discussion of table 3

29. The following brief discussion of the quality and status of accounting education in the responding countries emerges from an analysis of the variables presented in table 3.

30. It could have been expected that high-quality accounting and auditing education would be positively related to the percentage of full-time faculty, as well as of full-time faculty possessing an advanced degree such as a Doctor of Philosophy (Ph.D.) degree and/or a professional certification, such as one for certified public accountant (CPA); in other words, an educational system that has a significant number of full-time faculty and faculty with advanced and/or professional degrees is likely to be of higher quality than one that has fewer such full-time or qualified faculty.

31. According to the data, 68 per cent of the accounting education faculty are full time. Thirty-one and 37 per cent of them hold Ph.D. and professional degrees, respectively. Further statistical analysis of these data confirms the expectation that perceived product quality (last variable listed in table 3) is positively correlated with percentage of full-time faculty. The distribution for the faculty with Ph.D. variable is skewed (the median score is only 15 per cent, as reported in annex table A-2), owing to the fact that several respondents indicated that 100 per cent of their faculty held a Ph.D. degree.

32. A competitive salary will attract more, better-qualified faculty, thus raising the quality of accounting education in a given country. Faculty compensation relative to the salary of independent auditors (or business sector accountants) was measured at two points: entry level and after 10 years; that is, from the responses received, faculty salaries, at entry level and after 10 years of work, were calculated as a percentage of those of independent auditors and, if appropriate, of those of business sector accountants. The average entry-level salary for faculty is 89 per cent of that of independent auditors. The gap widens significantly after 10 years, when the average faculty salary is only 59 per cent of that of auditors.

33. Two important points should be drawn from these data. First, entry-level faculty salaries are competitive in several countries, and they even exceed those of entry-level auditors in Canada, Japan, Jordan, Panama, Singapore, Sweden, Ukraine and the United States. However, 10 years later, even in those countries where the salaries have been competitive (with the exception of Egypt, Japan, Ukraine and the United States), accounting faculty are not well paid in relation to their colleagues in the private sector. Second, further analysis of the data indicates that faculty salaries (relative to those in the private sector) at both entry level and after 10 years are positively correlated with the percentage of those having Ph.D.s, but not with the percentage of those having professional certification. This is an indication of the fact that countries whose educational institutions have more Ph.D. holders on their accounting faculty pay higher salaries to such individuals, and it also demonstrates the economic rewards for the greater effort involved in obtaining a Ph.D. degree.

34. A major factor in determining the quality of an education system is naturally the curriculum. To judge the quality implications of the content of accounting programmes, the American Assembly of Collegiate Schools of Business (AACSB) guidelines were used. According to those guidelines, roughly 50 per cent of the courses should be from the liberal arts or general education category. For the purpose of the study under discussion, a variable measuring quality of accounting education in a country by the absolute deviation of the programme's course composition from that in the AACSB guidelines was employed. 4/ The results indicate that the average accounting programme tends to be heavily tilted towards accounting and business courses, devoting only 20 per cent of course time to general education and liberal arts courses. 5/

35. The number of professional and support courses that are offered on a regular basis, as well as of analytical courses that are designed to enhance the individual's decision-making capabilities, affects the quality of an accounting programme. Most programmes elect to provide at least five accounting and seven support courses from the courses listed in the questionnaire (see annex table A-3 for a listing of those courses). Unfortunately, the course offered least is international accounting.

36. The existence of a monitoring and accreditation mechanism in the country is another measure of the quality of the accounting curriculum. Almost three quarters of the responding countries indicated that such a mechanism was in place; that is, in the majority of the countries responding to the survey there is an external body, either governmental or professional or both, that monitors the quality of the accounting education system.

37. Professional involvement in the country's AAET is deemed an indicator of a high-quality programme, since that involvement brings relevant practical issues into the curriculum. The questionnaire listed four types of professional involvement: teaching courses at educational institutions, giving seminars, hiring interns and producing accounting instructional materials. Because of the subjectivity of judgement that would have been required, no differentiation among those different types of involvement was made other than the non-inclusion of hiring of interns as a measure of involvement. Thus, this item was not included in the quality measure. Ninety-five per cent of the respondents indicated some level of professional involvement in accounting education in their country. This high level of professional involvement is definitely a positive phenomenon.

38. The questionnaire did not ask respondents to indicate whether the accounting profession in their country provided any financial aid to educational institutions or to individual faculty. This type of professional support has become quite common in the United States and has had and continues to have a very positive effect on accounting education in that country. This issue will be discussed further in section IV of this report.

39. Four of the programme deficiencies listed in the questionnaire were identified as serious ones, and an education system was considered to be of

lower quality if it had been judged to suffer from many of those deficiencies. The four serious deficiencies were lack of well-prepared students at the entry level; lack of trained faculty; inadequate or inappropriate curricula; and lack of relevant teaching materials (including textbooks) to adequately apply accounting principles to practical problems. 6/ The average programme suffered from two of the four possible serious deficiencies. The leading deficiency reported was lack of trained faculty, followed closely by lack of relevant teaching materials. These observations will be discussed further in the concluding section.

40. Finally, the degree to which accounting education was judged to be producing a quality product for the profession was analysed. Respondents were asked to indicate whether their country's accounting education was meeting completely, moderately, inadequately or not at all the need for quality preparation of accountants. A score of 4 was assigned to the response indicating the need was being completely met and a score of 1 to the response indicating the need was not being met. The average programme (reflected in a mean score of 2.9) was perceived to be meeting moderately the need for quality preparation of accountants.

41. Overall, the average profile of the accounting education system that emerges from the data is one depicting a technically oriented curriculum taught by underpaid (and frequently inadequately prepared) faculty, who sometimes use irrelevant teaching materials. It is to the credit of accounting instructors around the world that given all these obstacles, they are still able to meet (albeit only moderately) the quality demands of the profession.

III. RELATIONSHIP BETWEEN THE ACCOUNTING PROFESSION AND ACCOUNTING EDUCATION

42. In order to better understand and analyse the data received through the questionnaires, certain relationships between the quality of the accounting profession in a particular country and the quality of accounting education in that country have been hypothesized. Those relationships are based on the notion that a country's national accounting systems are shaped by their environment, and that different environments are likely to lead to the emergence of different accounting systems. A country's national accounting system includes, among other things, both the accounting profession and the accounting and auditing education and training available in that country. This environmental approach to the diversity of accounting systems is well established in the literature (see, for example, Choi and Mueller (1992)).

43. The above-mentioned hypothesis links the quality and status of the accounting profession in a given country to the quality of its accounting and auditing education and training (AAET). It is postulated that the quality of AAET will be positively correlated with the quality and status of the accounting profession. Simply put, AAET is expected to be more developed (of higher quality) in countries where the accounting profession has achieved higher status and is judged to be of higher quality.

44. Not only is this hypothesis straightforward and intuitively appealing, but the implications are strong and practical. The findings indicate that attempts to improve accounting education in any given country are likely to achieve significant success only when the quality and status of the profession have attained a certain level (and vice versa), owing to the fact that an educational programme that prepares students for a low-status profession neither draws the best teachers and the brightest students, attracts government and private sector funding nor holds out the promise of a rich and fulfilling career. Without these elements, the quality of accounting education will suffer in any environment.

Statistical relationship between quality of a country's accounting profession and quality of its accounting education

45. To facilitate the analysis, a subset of survey questions concerned with the existing state of things in each country both with respect to the accounting profession and accounting education was identified. These data, which were analysed in section II, will now be used to develop the link between the quality of a country's accounting profession and the quality of its accounting education.

46. Table 4 provides the summary quality scores for each dimension (professional and educational). The raw score was calculated by adding up, using a relative benchmark, the individual scores for each variable so that each variable had a maximum score of 1.00, except for extreme circumstances. For the dimension of quality and status of the profession, the total raw score had a potential maximum of 9.00, which was the sum of the scores of the nine variables. The observed responses ranged from 2.35 to 10.35. For the dimension of quality and status of education, the total raw score had a potential maximum of 11.00, and the observed responses ranged from -1.00 to 11.51. It is important to note that while the scoring was designed around a maximum of 9.00 or 11.00, it is possible to achieve a greater score owing to extreme circumstances (for example, an unusually large number of years of required work experience, or extreme levels of faculty salaries). Finally, since there was no objective way of measuring the relative importance of individual components, an equal weight was assigned to each variable in calculating the overall score.

47. The following example illustrates how these scores were calculated. As presented in table 2, the professional designations variable is a measure of the number of existing designations (out of a maximum of four) in a given country. Thus, a country that had three different designations received a score of 0.75 (3/4). This score of 0.75 was then combined with the other raw scores for the dimension of quality and status of the profession, for the purpose of calculating the total score for that country. The mean total raw score for all the countries in the sample was 6.52.

Table 4. Quality scores for the professional and educational dimensions

	Number of countries	Mean	Standard deviation
Profession (raw)	43	6.52	1.90
Profession (scaled)	43	0.82	0.10
Education (raw)	43	6.13	2.24
Education (scaled)	43	0.48	0.20

Note: The raw score for each country signifies the sum of scores of all variables in the dimension considered. The maximum value is 9.00 for profession, 11.00 for education. The scaled score for each country signifies the sum of scores of all variables in the dimension considered, with missing variables omitted from consideration. The maximum value for either dimension is 1.00. (See text for further discussion.)

48. The scaled score, also provided in table 4, is the raw score scaled to take into account the missing values in the responses from the individual countries. Thus, if a country did not provide all the information requested, the scoring mechanism omitted the missing variables from the calculation and based the country's score only on the available data. For each country, a maximum scaled score of 1.00 would be derived if all the available data from the responses indicated the highest quality. In this way, a country was not penalized for missing information. The observed results ranged from 0.46 to 1.14 for the professional dimension, and from -0.33 to 0.88 for the education dimension. 7/ As expected, the raw and scaled scores were highly correlated, at the 0.0001 significance level. This is reassuring since it indicates that the calculation of a scaled score does not materially change the nature of the variables.

49. A directional relationship between the two dimensions was not hypothesized; that is, it was not assumed that the quality of education drove quality of the profession, or vice versa. Because the statistical analysis was carried out without established expectations as to the direction of the relationship, a correlation analysis was conducted.

50. Table 5 provides the results of the correlation procedure. As can be seen in the table, the basic hypothesis relating the quality of the accounting profession in a country to the quality of accounting and auditing education and training in that country is supported by the evidence for each score type. The scaled scores are slightly less correlated than the raw scores, but both are within very reasonable significance levels.

Table 5. Correlation results for the profession/education scores

	Correlation coefficient	Significance level <u>a/</u>
Raw scores	0.467	0.002
Scaled scores	0.398	0.008

a/ Probability that the correlation coefficient would have attained the values given if its real value had been zero.

51. In conclusion, the summary data indicate that the survey responses attributed a moderate level of quality to the profession, based on a world-wide average. The mean score was 6.52 out of a possible 9.00 (72 per cent), and the scaled score was 0.82 out of a possible 1.00. The average accounting education system was judged by the survey respondents to be at a relatively lower quality level compared with the profession, as reflected in a mean score of 6.13 out of a possible 11.00 (56 per cent), and a scaled score of 0.48 out of a possible 1.00. The results of the statistical analysis should further motivate the international accounting community to deliberate and take action in order to improve the state of global accounting and auditing education and training. The final section concludes with recommendations for such action.

IV. CONCLUSIONS AND RECOMMENDATIONS

52. The present report has reviewed the current state of global accounting and auditing education and training. Both a literature review and an empirical analysis of data (gathered by the Accounting Section of the Transnational Corporations and Management Division of the Department of Economic and Social Development of the United Nations Secretariat from member countries and organizations) were undertaken.

53. From the literature review it was concluded that the previous studies, owing to data limitations or design preference, had generally been concerned with the state of accounting education and the accounting profession in a single country (a majority of the studies) or in a small group of countries, typically a geographical region (a minority of the studies). Each study had reflected the preferences and orientations of its author(s), and as a result comparison across studies are difficult. There is clearly a need for a truly global review of accounting and auditing education and training.

54. Based on the available and usable data from the questionnaires, an analysis was conducted and some preliminary conclusions were drawn. That analysis has revealed that the quality and status of the accounting profession

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in a country are positively correlated with the quality of the accounting education in that country. The direction of such relationships was not hypothesized, but additional analysis should be conducted in order to achieve a further understanding of these relationships.

55. Nevertheless, the Governments and professional organizations in member countries should be aware that the level of accounting education and the status of the profession are related, and in order for one to improve, there has to be improvement in the other. While it is clear that raising the status of the accounting profession will improve the quality of accounting education, recommendations in this report are limited to the various aspects of accounting education.

56. The analysis provides evidence that in a country, a positive relationship exists between accounting faculty status, as measured by faculty salary levels relative to those of auditors, and perceived quality of the product of the education system. Thus, responsible parties, such as local and national Governments and educational institutions, could be encouraged to take steps to ensure competitive salaries for accounting faculty at entry level and throughout their career. Competitive salaries will provide the necessary incentive for promising individuals to pursue careers in accounting education and research.

57. The questionnaire did not ask respondents to indicate whether the accounting profession in their country provided any financial aid to educational institutions or to individual faculty. This type of professional support has become quite common in the United States and has had a very positive effect on accounting education. The Working Group could act as a catalyst in this matter and together with IFAC encourage professional organizations to follow the example of the United States. Not only will such support enhance the level of accounting-related knowledge within the country, but it also can serve to improve the real income of faculty, and thus provide some of the required incentives discussed above.

58. As noted in the above discussion, the average programme suffers from two of a possible four serious deficiencies. The leading deficiency reported was lack of trained faculty, followed closely by lack of relevant teaching materials. Recommendations regarding faculty salaries and support that will help ensure the supply of appropriately trained accounting faculty have been made. The United Nations and the Working Group could also act to improve the supply of trained faculty, but this will take a long time and depend on such uncontrollable circumstances as economic conditions and availability of qualified individuals in each country. However, the Working Group could act faster, and with measurable impact, on behalf of the second most important deficiency, that is, the lack of relevant teaching material.

59. The Working Group could undertake to create an acceptable curriculum, perhaps using IFAC's educational guidelines as a starting-point. It should strive to incorporate judiciously the AACSB guidelines or those from other countries, where appropriate, and initiate a programme to create and

distribute teaching material to all members who have indicated a need for such materials. In this regard:

(a) It is recommended that the Group approach the professional organizations and accounting firms, and initiate discussions with them concerning the possibility of funding research and other educational efforts including the creation of adequate teaching material that can be used in a variety of countries;

(b) Of particular importance is the development and improvement of courses that teach analytical skills, unstructured problem-solving and decision-making. While four fifths of the responding countries noted the existence of such courses, the Working Group could encourage all members to consider inclusion of such courses in their programmes, and to continuously improve existing courses.

60. Finally, it should be noted that this survey is an important pioneering venture in the gathering of such data as have been discussed in the present report. This effort should be encouraged and expanded, and to fully utilize its potential the following is recommended with respect to data gathering and analysis:

(a) Member countries and organizations could be asked to provide more complete information about the various aspects of accounting and auditing in their countries. Efforts could be made to guarantee a full understanding of the information required, and ample time should be allowed for the responding organizations to provide complete and accurate data;

(b) The resulting database should be managed in a professional fashion. The data should be computer-readable and -usable, so as to facilitate further analysis and expanded knowledge;

(c) The Working Group could actively support research projects that utilize the database, as well as any additional data which might be gathered as needed.

61. These recommendations do not cover the entire range of possible actions; they are designed to serve as a basis for further discussion and action by the Working Group. The implementation of the above recommendations will take many years. However, the Working Group may wish to do whatever is in its power, and the profession may likewise wish to harness whatever resources are at its disposal, to improve the quality of accounting and auditing education and training world wide.

Notes

1/ In recent years a number of articles have been written that address future trends in accounting education, especially in the United States, where many universities are currently involved in major curriculum revision projects. However, articles have also appeared in journals published in various other countries.

2/ The data for length of examinations were available for only 26 countries. It appears that many respondents misinterpreted the question and assumed that it implied length of years required to complete study for the degree.

3/ This statistic of an average of five institutions granting a degree leading to the independent auditor designation, is somewhat misleading owing to the fact that only 10 leading universities could be listed on the questionnaire. Some countries have many more than 10 such granting institutions. For example, the Prentice-Hall 1991 Accounting Faculty Directory, compiled by James Hasselback, lists over 700 universities, primarily from the United States, that grant accounting degrees. Although not all of those could be classified as leading institutions, more than 10 would probably meet the criteria of such classification. Thus, the actual average is probably somewhat higher, with its distribution highly skewed.

4/ We recognize that AACSB guidelines are limited primarily to the United States and thus have limited applicability. Furthermore, any such measure that evaluates a university's accounting programme is subjective and based on all the levels of education that exist in the particular country concerned. For example, many countries have a much higher level of secondary school education than exists in the United States. This high level of secondary school education may mitigate the need for a higher percentage of liberal arts and general education courses at the university level.

5/ Because of the limited applicability of the AACSB guidelines as a benchmark, the statistical analysis was repeated omitting this variable. While the results did improve slightly, they were not significantly different from those obtained when the variable was included.

6/ There was clearly an element of judgement involved in having selected just four of the listed deficiencies as serious. Any of those deficiencies would seriously affect the quality of an accounting programme. The additional deficiencies listed in the questionnaire (lack of physical facilities, lack of computers and related software, and too large class-size, among others) were not sufficiently critical in themselves or as a group to seriously affect the quality of an accounting programme.

7/ Some of the variables carried a negative value, for example, serious programme deficiencies. Therefore, if a country's educational system had no positive qualities but many deficiencies, it could receive a negative score.

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Annex

ADDITIONAL TABLES

Table A-1. Further statistics for quality and status of
the accounting profession

	Minimum	Median	Maximum
Professional designations	0.0	3.0	4.0
Length of examinations	1.0	12.0	36.0
Required work experience	a/	a/	a/
Work experience	0.0	36.0	84.0
Programme length	30.0	48.0	60.0
Pre-entry requirements	12.0	12.0	15.0
Granting institutions	0.0	5.0	10.0
Corresponding courses	a/	a/	a/
Earnings potential (percentage)	130	250	500

a/ Not applicable.

Table A-2. Further statistics for quality and status
of the accounting education system

	Minimum	Median	Maximum
Full-time faculty (as percentage of total faculty)	15	80	100
Faculty with Ph.D. (as percentage of total faculty)	0	15	100
Faculty with professional certification (as percentage of total faculty)	0	25	100
Faculty salary at entry (as percentage of that of auditors)	27.5	75	200
Faculty salary after 10 years (as percentage of that of auditors)	10	55	150
Programme percentage deviation from AACSB guidelines	0	25	50
Professional courses (out of a 7-course list)	4.0	6.0	7.0
Support courses (out of an 11-course list)	4.0	8.0	10.0
Analytical courses	a/	a/	a/
Professional involvement	a/	a/	a/
Programme deficiencies (maximum = 4)	0.0	2.0	4.0
Monitoring and accreditation	a/	a/	a/
Product quality (maximum score = 4)	1.0	3.0	4.0

a/ Not applicable.

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Table A-3. Listing of courses in the questionnaire

Professional courses

Financial accounting
Management accounting
Government accounting
Taxation
International accounting standards
Auditing
Electronic data-processing and information systems

Support courses

Business finance
Management
Marketing
Business policies
Economics
Business ethics
Law
Mathematics
Behavioural sciences
Written communication skills
Oral communication skills



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ACCOUNTING EDUCATION AND STRENGTHENING OF THE PROFESSION:
COMPARATIVE STUDY OF CURRICULA FOR ACCOUNTANTS AND
AUDITORS IN AFRICA, ASIA, EUROPE, LATIN AMERICA AND NORTH
AMERICA, INCLUDING PRE-QUALIFICATION AND CONTINUING
EDUCATION PROGRAMMES IN PUBLIC AND PRIVATE INSTITUTIONS
AND EXAMINATION AND CERTIFICATION PROGRAMMES

Responsibilities of the accounting profession and
direction of accounting and auditing education

Report of the Secretary-General

SUMMARY

The present report examines the role and responsibilities of accountants and auditors that go beyond the production of financial information, and relates the stage of development of a country with the state of the development of the accounting profession in that country. The main assumption of this report is that the level of development in a country drives the demand for specific accounting services. To successfully meet this demand, accountants must be appropriately educated. The report concludes with a presentation of the elements of a curriculum for educating tomorrow's accounting professionals.

* E/C.10/AC.3/1993/1.

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INTRODUCTION

1. During its tenth session, the Intergovernmental Working Group of Experts on International Standards of Accounting and Reporting decided to devote its eleventh session to one topic, accounting education. The purpose would be to examine in depth the role and responsibilities of accountants in the global economy and to determine, if possible, whether accounting education had been adequately preparing accountants for their role and responsibilities. The present report reviews the role of accountants in economic development, the development of the accounting profession and the education accountants receive compared with the education they need.

2. Accounting information is essential to managing businesses of all sizes and forms - from the smallest single-owner-managed entity to the largest transnational corporation. As designers, producers, auditors and users of business information, members of the accounting profession play - and will continue to play - an important role in facilitating world-wide commerce and business and contributing to global economic development and efficiency.

3. The way in which accountants are educated and the level of sophistication of their education are critical to the profession with respect to its ability to carry out its responsibilities. These factors are a major determinant of the attractiveness of the accounting profession, with opportunities for educational advancement contributing to the prestige of, and attracting highly qualified individuals to, that profession. Educational requirements for entering the profession, as well as the availability of continuing professional education, affect the quality of services rendered by accountants. Thus, the future direction of accounting and auditing education will be crucial in the continued development of the accounting profession world wide. This, in turn, will affect global economic efficiency and development.

4. The purpose of this report is to stimulate the discussion of issues in the education of accountants by (a) exploring how accountants and the accounting profession contribute to economic development and efficiency; (b) providing a perspective on the continuing development of the accounting profession, its responsibilities and the problems it faces; (c) discussing the educational needs of the profession at the various stages of development currently existing in many countries; and (d) describing the changes that must be made in the education of accountants to ensure that the profession continues to meet its obligations.

I. ACCOUNTANTS AS CONTRIBUTORS TO ECONOMIC DEVELOPMENT AND EFFICIENCY

5. Accountants contribute to economic development and efficiency in a variety of ways. First, they are providers and auditors of information used by external capital markets. To function efficiently and allocate resources effectively, those markets rely on timely, relevant and reliable accounting information. The development of global capital markets has increased the demand for accounting information as investment analysts, credit grantors and other external users allocate financial resources on a world-wide scale. As a result, most large transnational corporations follow global financing strategies. For example, Transamerica Corporation maintains credit arrangements with 60 banks world wide and lists its stock on exchanges in Amsterdam, Brussels, Frankfurt, Geneva, London, Paris, Tokyo, Toronto, Vienna and Zurich, in addition to those in the United States of America.

6. Accounting information is also used by regulatory and taxing authorities, as well as by economic planners and policy makers. Although accounting information has always been important in centrally planned economies, it is even more important as many of these economies make the transition to becoming market economies. Properly functioning capital markets and effective regulatory, economic, and taxation policies are thus crucial to both developed and developing countries.

7. Accountants are also designers and auditors of accounting information and internal control systems that promote organizational and managerial efficiency and effectiveness. Internal managers rely on accounting information in most phases of their decision-making processes. Furthermore, properly functioning management control systems lead to sound business practices which are essential to organizational health and profitable growth. The development of those sound business practices directly encourages the growth of business enterprises and indirectly leads to overall economic growth in both developed and developing countries.

II. DEVELOPMENT OF THE ACCOUNTING PROFESSION

8. The responsibilities of accountants are a function of the way in which information is used in the conduct of economic activities. Accountants contribute to the development of sophisticated economic mechanisms and to economic growth, as discussed above. To achieve a better understanding of the variety of ways in which accountants practise throughout the world, it is useful to review the stages of professional accounting development. That understanding will be used in examining accounting education needs in section III.

9. Table 1 is a matrix showing the various stages of development of the accounting profession as they relate to (a) the level of sophistication of

Table 1. Development of the accounting profession

Stage	Characteristics of economic activity	Accountants' responsibility (information)	Accountants' responsibility (standards)	Characteristics of professional organization
Mature profession	Sophisticated capital formation and allocation Wide participation in international capital markets Significant source of investment for other countries Large-sized business units	Provision of and attestation to external information for use in international capital markets, taxation, and compliance with laws and regulations Creation of internal information for decision-making in global organizations	Start of efforts to harmonize international accounting and auditing standards Active interface for standard-setting with government regulators Leadership in international standard-setting process Involvement in strong national standard-setting process	Comprehensive formal organization Uniform licensure with attention to global reciprocity Strong focus on maintaining integrity Membership in international accounting organizations
Early profession	Increasing government regulation National capital formation and allocation with some participation in international markets Some investments in other countries Medium- and large-sized business units	Provision of and attestation to external information for national capital markets and taxation Provision of internal information for local and corporate needs with separate responsibilities	Some interface for standard-setting with government regulators Involvement in national standard-setting process and some involvement in international standard-setting process	Comprehensive formal organization with licensure and self-regulation Development of integrity concept Possible membership in international accounting organizations

Table 1 (continued)

Stage	Characteristics of economic activity	Accountants' responsibility (information)	Accountants' responsibility (standards)	Characteristics of professional organization
Pre-profession	Greater use of foreign capital Some national capital formation activity, strong local efforts Small- to medium-sized business units	Provision of basic external information for tax authorities and debt markets Provision of internal information for decision-making in small- and medium-sized business units with dedicated accounting personnel	Some consensus on adopting other existing standards Possible innovation in standards relating to local conditions Provision of reasonably well-developed cost accounting model	Local coalitions with possible formation of national organizations No licensure
Individual accounting practitioner	Some use of foreign capital Use of local capital Only local economic activity with little or no international linkages Small-sized business units	Provision of rudimentary internal information for decision-making within small-sized business units often included with other management responsibilities	Use of international accountants for non-national development projects No standard-setting process Early development of internal accounting model	None

economic activity; (b) the accountant's responsibility to provide information; (c) the accountant's responsibility to develop accounting standards; and (d) the levels of professional organization. The stages of professional development outlined in this matrix are meant to stimulate discussion of various practice environments. They are general descriptions and will not serve to classify accurately the specific circumstances found in every nation. Many countries may have some characteristics that fit several stages. Also (as will be discussed more fully below), some countries are working to hasten progress towards higher levels of professional development.

Individual accounting practitioners

10. In developing countries, economic activity is often centred in small local units with few national or international links. Foreign capital, often from subsidized sources, may be used for specific developmental programmes. The primary economic activities are directed at meeting the immediate needs of the population with local capital investment. Economic business units are frequently owner-managed and are rarely large enough to support a separate full-time accounting function.

11. The small business units that are characteristic of these economies rely on rudimentary information for decision-making. Simple quantifications of monetary and non-monetary exchanges over short reporting periods will support the decision-making in small owner-managed firms. Most accounting tasks will be executed by managers as a part of their other responsibilities.

12. In economies characterized by the existence of small-sized business units, most individual accounting practitioners need access to fairly simple internal accounting models to service local commerce. In developing economies, however, some individual accounting practitioners may be employed by their Governments to provide oversight for transnational corporations. Therefore, they will need to develop skills that allow them to formulate and implement a minimum set of national accounting standards. In addition, many developing countries have created large parastatal enterprises. In some cases the lack of adequate accounting systems and of appropriately trained accountants has made their management difficult. In some countries, those enterprises are now in the process of being privatized. Given the large size of the enterprises (whether state or private), accountants with appropriate skills are needed to deal with them. This is demonstrated by one response to the Working Group's questionnaire on accounting education. In that response, it was stated that one of the chief characteristics of the country concerned was the poverty of human resources in the areas of accounting and management. That situation was producing catastrophic results in the public sector in general and in the parastatal sector in particular. The development of accounting education could permit the country to train the necessary managers for state enterprises. Moreover, it was pointed out that no programme of economic correction and no development action could benefit a fragmented economy that was characterized by the lack of a solid accounting infrastructure.

13. Development projects funded by international agencies such as the World Bank and requiring more sophisticated accounting and reporting have been serviced by accountants from countries where the profession has developed to either an early or mature profession stage. Consequently, a number of current projects have been initiated to strengthen the government's audit capacity and to develop systems and internal standards to increase aid accountability". 1/

14. Because accounting work is in many instances combined with other business activities, there are often no separate professional organizations for accountants. Indeed, if such organizations do exist, they may lack a critical mass of accountants and may have to include professionals in related fields. Likewise, there is no need for elaborate standard-setting efforts as long as the Government has access to the work of regional and international standard-setting bodies.

Pre-profession

15. As economies grow, they develop medium-sized business units that require greater resources and provide a broader range of goods and services. At this level of economic activity, there is some national capital formation in support of these medium- and small-sized business units. Use of foreign capital is also greater and directed at both development projects and ongoing economic operations.

16. The economic environment in which the pre-professional stage is most often found is characterized by the existence of business units that need reasonably well-developed cost accounting models. Local conditions may result in the development and application of accounting methods for salient issues relating to the economic conditions of the country, such as inflation and privatization. As the medium-sized business units grow, the pressure to adopt existing standards from other countries or from international groups may develop.

17. As the economy grows to include those medium-sized business units, management separates from ownership and information requirements expand because of the need to monitor internal management and report to absentee owners. Basic information for external users is also needed for tax authorities and credit grantors. The need for more complete internal and external reports for the larger business units may require the presence of a separate accounting function within the organization. The dedication of human resources to the accounting tasks required of those business units provides the basis for the ultimate development of the accounting profession.

18. Economies that support separate internal accounting functions may have local coalitions of accounting practitioners (with the possible formation of national organizations). Usually there will be no licensure regulations, because external reporting and attest services are not yet sufficiently important.

Early profession

19. As an economy grows to emphasize large- and medium-sized business units, the demands on the accounting profession also grow, with more sophisticated internal information required for decision-making by both local units (divisions) and central or home office (corporate) units. This information must be based on a reasonably complete accounting model including allocation of costs, matching of costs and revenues, and timely determination of profit. The resulting information must support articulation between the various levels of the business units.

20. Expansion of business units to include medium- and large-sized organizations guarantees the separation of ownership from other management functions. As those business units become more sophisticated, the accounting departments within them grow and become more complex. This fosters increased sophistication among accounting experts and technicians, and a corresponding increase in the demand for their services. The resulting mobility of accounting experts enables the transfer of accounting and management techniques from one organization to another. By developing mobile expertise, accountants become important in the dissemination of business advice.

21. Larger-sized business units require a commensurate growth in national capital markets that facilitate the formation and allocation of financial resources. In addition, these larger business units, such as Transamerica (referred to previously), are likely to participate in international capital markets. Individuals and business units may invest in other countries as well as receive foreign capital investment. The increase in capital formation and allocation is accompanied by the appearance of significant government securities regulations and the increased complexity of taxation rules.

22. As the external use of accounting data grows, the need for attestation (the auditing of financial statements) of those data by public accountants increases. With the increased need for attestation services comes an expansion in the professional responsibilities of accountants. Often separate business units (that is, accounting firms) are organized to provide professional accounting services. To support the focus on external reporting and audit or attest work, individual accounting practitioners and accounting firms at the early profession stage form comprehensive formal associations with regulations governing the right to perform services. These organizations may be linked to governmental units or they may be self-regulatory associations of accountants. To support the value of attest services, professional associations at this stage will develop ways to assure the integrity of individual practitioners. Also, these national associations of accountants may become members in international accounting associations.

23. Taxation authorities, securities traders and investors, and market regulators need information in a reasonably uniform format. They may choose to specify accounting rules, they may work with accountants in setting the rules or they may delegate the carrying out of the standard-setting process to accounting associations. At the early profession stage a national

standard-setting process, with some involvement in the international one is required. Accountants must be involved with regulators in developing rules and laws that protect external, as well as governmental, users of economic data.

Mature profession

24. Developed economies are dominated by large-sized business units that are supported by a sophisticated system of capital formation and allocation. The large and sophisticated business units in these countries participate widely in international capital markets and are also a significant source of investment capital for other countries.

25. Transnational corporations operating in these economies require sophisticated internal information systems for decision-making that incorporate data from divisions in many countries engaged in various kinds of business. The global organizations must be able to report very complex capital transactions, earnings activities, and consolidations of operations. The sophisticated markets that characterize the mature professional environment require the provision and attestation of external information for use in international capital markets, and for taxation decisions, and to encourage compliance with laws and regulations.

26. Countries with a mature profession have strong national standard-setting processes and provide leadership in the international standard-setting process. The reliance on capital markets at this level requires active interface for standard-setting with government regulators and efforts to harmonize national standards with international accounting and auditing standards.

27. Mature accounting professions are characterized by comprehensive formal organizations that control licensure through uniform regulations. Attention is paid to global reciprocity considerations and membership in international accounting associations is the norm. To ensure the quality of information provided to external users, the mature profession will have a strong focus on maintaining professional integrity.

Responsibilities of an early and a mature accounting profession

28. In early and mature profession environments, accountants have significant responsibilities that go beyond the mechanics of internal and external reporting. Practitioners serve as business advisers to complex industrial and service organizations. In doing so, they must be able to relate past or prospective accounting results to a client's operational and financing activities. Providing sage advice on complex transactions and difficult business decisions improves client results and increases the perceived value of the accountant's services.

29. As noted, a mature as well as an early profession keeps by necessity a strong focus on maintaining professional integrity. However, in recent years

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corporate bankruptcies such as the many failures of savings and loan associations and banks in the United States, as well as the failure of such transnational corporations as the Bank of Credit and Commerce International and Poly Peck in the United Kingdom of Great Britain and Northern Ireland have caused many financial statement users and the public at large to call into question whether the accounting profession is meeting its perceived responsibilities. As a result there has arisen what many are calling an expectation gap, that is, a difference between "what the public and financial statement users believe accountants and auditors are responsible for and what accountants and auditors themselves believe they're responsible for". 2/

30. This expectation gap, as well as alleged cases of audit failure, have led to huge lawsuits and judgements against accounting firms of all types and sizes. The Economist estimates that in the United States alone accounting firms are facing around 4,000 lawsuits claiming a total of US\$ 30 billion. 3/ Multi-million dollar judgements and settlements have been forthcoming. For example, Ernst & Young settled with the United States Government for over \$400 million in conjunction with its audit of Lincoln Savings and Loan. These huge lawsuits are not aimed only at American accounting firms. For example, in the United Kingdom, Klynzeld Peat Marwick Goerdler (KPMG) Deutsche Treuhand-Gesellschaft paid US\$ 71 million to settle a claim made against it by Ferranti. 4/

31. As a result of these alleged audit failures and the settlements made by accounting firms, many members of the public and financial statement users believe that auditors should:

(a) Assume more responsibility for the detection and reporting of fraud and illegal acts;

(b) Improve audit effectiveness, that is, improve detection of material misstatements;

(c) Communicate to users of financial statements more useful information about the nature and results of the audit process, including early warnings about the possibility of business failure;

(d) Communicate more clearly with audit committees and others interested in or responsible for reliable financial reporting. 5/

32. However, it is not clear that the profession, even in those countries where it can be characterized as mature, is ready to accept this larger role. These increased expectations will be more difficult to meet in countries where the profession is at an earlier stage of development. Enhancing the quality of the profession through attracting better-educated accountants and ensuring their continued education will be vital if the profession is to meet the expectations of financial statement users. The following section of this report discusses the variables connected with the important issue of education for professional accountants.

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III. EDUCATION OF PROFESSIONAL ACCOUNTANTS

33. The educational needs of accountants are driven by their role and responsibilities. These are a function of the degree of country development and the particular economic environment. For one of the most interesting items in the questionnaire it was asked whether the needs for accounting education in developing countries were different from those in developed countries. The responses indicated that in general, accountants in developing countries need basic skills in order to control and manage state enterprises, collect taxes, monitor transnational corporations (particularly in the area of control of transfer pricing), deal with inflation and foreign exchange fluctuations and help run small businesses. Accountants in developed countries need more advanced skills to deal with complex financial markets and transactions, give financial advice to investors and help chief executive officers make both short- and long-term management decisions.

34. Some accountants, particularly in the newly industrializing countries, are being caught in the middle, as is shown in one national response where the respondents noted that the major forces shaping the role of accountants in their country were the growing trend of globalization of business activities, the rise in importance of the service sector of their economy, the increasing diversity and complexity of financial arrangements, the ever-growing importance of information technology, rising public expectations and changing consumer needs.

35. The stages of professional development described in section II provide a useful framework for considering the range of educational requirements in various countries. The discussion below is summarized in table 2. In that table, the description of each stage of the accounting profession includes the structure of the educational process, the characteristics of the educational needs of professional accountants at that stage in the development process and the requirements for specific areas of knowledge (accounting and auditing, professional, economic and business, and general) and for two areas of skill (communications and interpersonal).

Individual accounting practitioners

36. In countries with economies characterized by the existence of small-sized economic business units and local activity, there is usually little or no technical or professional accounting education and limited availability of general education at the tertiary (university) level. Individuals undertaking accounting activities rely on general knowledge gained mostly through experience. To the extent that formal education is available, it will focus on basic primary and secondary education.

37. Individual accounting practitioners need a rudimentary knowledge of internal record-keeping techniques for the manual systems that are prevalent in their economies. They need the ability to use a limited cost accounting model, but do not need significant knowledge of professional obligations or responsibilities. The necessary understanding of the economic and business

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Table 2: Education for professional accountants

Stage	Structure	Characteristics	Knowledge	Skills
Mature profession	Advanced technical or professional training within university, firm or organization Wide availability of sophisticated post-secondary education Opportunities for lifelong learning within firm or organization	Highly trained professional academic community Significant interaction between profession and educators teaching technical topics Source of educational expertise for other countries Significant use of secondments or foreign study	Accounting and auditing: sophisticated knowledge of external reporting and of attestation, taxation, laws, and securities regulations Professional: understanding of sophisticated ethical standards and self-regulation Economic and business: extensive coverage of economic concepts for large organizations in international markets General: comprehensive post-secondary education	Communications: ability to present and defend positions through sophisticated formal/informal oral/written presentations Interpersonal: development of mature management skills for large-sized business units including organizing and delegating tasks, motivating and developing the abilities of other people, and withstanding and resolving conflict
Early profession	Technical or professional training available within university, firm or organization Wide availability of post-secondary education	Development of domestic expertise in technical and professional areas Significant post-secondary academic community	Accounting and auditing: significant focus on external reporting and on attestation standards and controls Professional: understanding of basic ethical standards Economic and business: formal education in decision-making, capital formation and allocation for medium- and large-sized units General: comprehensive post-secondary education	Communications: ability to acquire information effectively and understand opposing viewpoints Interpersonal: development of more sophisticated management skills and the ability to work effectively in groups

Table 2 (continued)

Stage	Structure	Characteristics	Knowledge	Skills
Pre-profession	Some technical or professional training available within university or firm Some availability of post-secondary education	Possible utilization of foreign educational expertise, multinational firm resources, and foreign study for technical and professional training	Accounting and auditing: some focus on external reporting, sophisticated internal reporting, rudimentary systems principles Professional: none Economic and business: experience and possibly education about small- to medium-sized business units and allocation mechanisms General: reasonable formal education (comprehensive secondary participation with some post-secondary work)	Communications: simple communications within local or regional community; ability to locate, obtain and organize information from human sources Interpersonal: development of beginning management skills
Individual accounting practitioner	Little or no technical or professional training Heavy reliance on life learning (experience) Limited availability of post-secondary education	Focus on provision of basic primary and secondary education	Accounting and auditing: rudimentary internal record-keeping, limited cost accounting model, manual systems only Professional: none Economic and business: experience with small-sized economic units General: basic formal or informal education (some secondary-level participation; little post-secondary)	Communications: simple communications within local communities Interpersonal: simple local interactions characteristic of a functioning adult Intellectual: Basic reasoning ability

activities of small-sized business units is usually gained through experience. General education is often limited to primary subjects, but there may be some secondary-level participation.

38. Accountants need to be able to communicate within their local communities in an economy dominated by small-sized economic units. As the organizations are not large enough for significant management activities, accountants need only the interpersonal skills that are characteristic of a functioning adult within the society. However, accountants who regulate transnational corporations or work in parastatal enterprises need considerably greater interpersonal skills.

Pre-profession

39. In a pre-professional environment, there is an increased need for technical and professional training. This requires some availability of post-secondary education. Foreign study may be utilized for general or technical education. Transnational firm resources or visiting faculty from foreign countries may be a significant source of technical and professional expertise. Utilization of written material (textbooks, cases or standards) from other countries may be of significant assistance in the development of local accounting education.

40. Accountants at the pre-profession level require a more sophisticated internal reporting model than accountants at the individual practitioner level. The increase in capital allocation activities requires an understanding of basic external reporting principles. Because they may encounter computerized records, pre-profession accountants need at least a basic understanding of the principles of information systems. Some education in professional topics such as ethical standards and self-regulation is required at this level.

41. The necessary understanding of economic and business practices of small- and medium-sized business units may be gained through experience or formal study. The portability of accounting skills makes the breadth of experience that one individual may gather greater than that found at the individual practitioner level. General education should include comprehensive secondary-level participation with some opportunities for tertiary-level work.

42. Simple communications within local or regional communities are all that is demanded of accountants at the pre-profession level. Because they may now be separate from management, accountants must be able to locate, obtain and organize information from others within the organization. In this pre-profession stage, accountants should be developing the basic interpersonal skills required of managers whose span of control is widening.

43. One way to accelerate movement from the individual practitioner or the pre-profession stage to the early profession one is to utilize foreign expertise. Faculty members and practitioners from early and mature profession environments can be enlisted to teach technical and professional topics. The

courses are often scheduled for short periods of time (several weeks). Such arrangements can be quite beneficial; however there are some difficulties to keep in mind. Because of the relatively rudimentary education of the students, instructors often face a very diverse group of participants. Also, because of the lack of relevant market experience, it may be necessary to teach basic business and economic topics as well as accounting principles and practices. It is necessary to include local professors and practitioners as well as current students to develop an infrastructure sufficient to support professional development in the receiving country. This has been a useful model for training the trainers in countries making the transition from planned to market economies.

Early profession

44. In the early profession stage, significant technical or professional education is necessary as pre-entry education or as training at the beginning of professional employment. Several models are used to provide this education. Some countries rely on universities to include the appropriate professional and technical material in the degree courses. Graduates of such programmes are often referred to as being relevant; the term reflects the time they have spent studying accounting, economic and business topics. In other countries, accounting firms hire non-relevant graduates, that is, those who have read other topics in their university curricula. The additional technical education is provided within the firm or by the professional organizations while the candidates are working. These models require significant expertise in technical and professional education within the universities, firms or professional organizations. This must be supported by the wide availability of post-secondary education provided by an active university community.

45. The development of significant capital market activities requires an educational focus on external reporting, and attestation standards and controls. Practitioners must have an understanding of professional responsibilities and basic ethical standards. To support their expanded roles and existence within a separate profession, accountants must have formal education in decision-making, capital formation and resource allocation in medium- and large-sized economic units. All practitioners must have a solid post-secondary education.

46. In an economy in which the profession is at an early profession stage, accountants must be able to acquire information effectively and understand opposing viewpoints. They must have more sophisticated management skills and be able to work effectively in groups.

47. One way to accelerate the development of professionals trained in accounting and auditing standards is to send students and graduates to other countries to qualify under more advanced systems. While this has the advantage of quickly creating an initial group of practitioners, prolonged reliance on foreign qualification can retard the development of local educational resources and licensure programmes.

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Mature profession

48. The mature profession will provide advanced technical or professional training within firms, universities or professional organizations, as described above. The profession requires the wide availability of sophisticated and varied tertiary education provided by a highly trained, dedicated faculty. In addition, there should be significant interactions between practitioners and educators who teach technical or professional topics. Lifelong learning, provided by firms or professional associations, keeps mature professionals up to date throughout their careers. In both general and technical education, institutions in these countries will be a significant source of expertise for other countries.

49. Mature professional practitioners must have advanced knowledge of external reporting practices, attestation standards, taxation, legal issues and securities regulations. They must also have an understanding of sophisticated ethical standards, professional responsibilities and the principles of professional self-regulation. Extensive formal education in the economic concepts applicable to large organizations operating in international markets is also necessary.

50. To service clients in advanced economies, practitioners must have the ability to present and defend positions through sophisticated formal/informal oral/written presentations. Because of the size of their practice units and the complexity of the business issues they face, practitioners must also develop advanced management skills for large-sized economic units including organizing and delegating tasks, motivating and developing the abilities of staff, and withstanding and resolving conflict.

IV. ACCOUNTING EDUCATION REQUIRED OF PROFESSIONALS IN
A GLOBAL ECONOMY

51. The foundations of improved world-wide accounting education are curriculum and faculty. Both these areas require constant attention if qualified individuals are to be attracted to the accounting profession, and the profession is to grow, prosper and fulfil its important role in economic development.

A curriculum for tomorrow's accounting professional

52. Today's accounting professional must operate in a constantly changing and complex international economic environment. To be successful, tomorrow's accounting professional must develop a wide range of knowledge and skills for mastering even more difficult challenges such as developing and applying methods for environmental reporting. University-level education is an important building block in the development of such knowledge and skills. Today's accounting curriculum must meet the needs of tomorrow's professional challenges by enabling accountants to manage change through lifelong learning.

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Knowledge required for success

53. Table 2 lists the knowledge and skills required at the different stages of development of the accounting profession. As discussed in the previous section, such knowledge and skills are cumulative in that as professional accountants move from the individual practitioner through the early profession and the mature profession stage, they must be constantly building their knowledge and skill base to meet additional responsibilities.

A focus on technical knowledge

54. At the individual practitioner and the pre-profession stage, accountants' responsibilities in providing information and developing standards are somewhat limited (see table 1 for a detailed listing of those responsibilities). At these stages, the accounting curriculum should emphasize the professional subjects found in the International Federation of Accountants (IFAC) sample programme, such as financial, managerial and governmental accounting, taxation, auditing, and electronic data processing. Many individual practitioners lack education in these important functional areas. There should be relatively less emphasis on such supportive subjects as business ethics, law and the behavioural sciences.

55. Responses to the questionnaire prepared and distributed for the Intergovernmental Working Group of Experts on International Standards of Accounting and Reporting indicated that many of the countries that are making the transition from a planned to a market economy feel that accounting education should concentrate on the basic accounting principles applicable to a market economy. Similar responses were found in questionnaires from countries where the accounting profession was at the individual practitioner or the pre-profession stage.

A shifting focus

56. As the accounting profession moves from the pre-profession to the early and the mature profession stage, the emphasis of the education required of accountants shifts from technical accounting subjects to broader business-oriented knowledge. In the past, the tendency was to concentrate on just the technical knowledge related to accounting and auditing. The result was the formation of a technically competent accountant whose education may not have been adequate to deal with broader business and economic issues. As part of a mature profession, the successful accountant operating in tomorrow's global environment must have a broad general knowledge or education, a working knowledge of organizations and business, and an in-depth knowledge of accounting and auditing.

57. This shift of emphasis represents a change that has been slow in coming. It has only been in the last five years or so that a call for accounting education reform has been heard in countries where the profession is in the early or mature stage. 6/ For example, the Accounting Education Change Commission (AECC) was established in the United States in 1989 with a

US\$ 4 million budget by the then "Big Eight" accounting firms. 7/ Although this body was established in the United States, it is beginning to have influence in certain parts of Europe, Australia, New Zealand and Asia. Again, a review of questionnaires from the Working Group indicates that many of the professional associations in these areas are calling for a significant broadening of accounting curricula.

58. An effective curriculum must provide accountants with a broad body of knowledge generally found in traditional liberal arts education. The study of subjects such as history, culture, ethics, philosophy, logic and languages should be included. Although it is difficult to pinpoint the relative emphasis to be placed on this part of the curriculum, most would argue it should comprise at least half of the material that is normally thought of as constituting a university education.

59. A substantial part of any accounting curriculum should include organizational, economic and business knowledge. Graduates should have a working knowledge of organizational behaviour, economics, finance, and marketing on a national and an international level. These are the supportive subjects found in the IFAC sample accounting curricula. More important than to just understand these areas of business knowledge, the successful accountant must be able to integrate that knowledge across them.

60. Obviously, practitioners need an in-depth knowledge of accounting and auditing as described in the national and the international literature. However, probably too much emphasis has been placed on teaching current standards, practices and concepts as often embodied in professional certification examinations. In addition to these important items, accountants should learn the analytical and conceptual skills necessary to resolve tomorrow's accounting- and business-related issues and problems.

Skills required for success

61. An innovative curriculum must develop three sets of skills in accounting students - communication, intellectual and interpersonal ones. 8/ As was similarly pointed out in the discussion of levels of knowledge, the skills required of successful accountants increase as their professional responsibilities grow.

62. In today's global economic environment, recording, processing and communicating information are essential features of human and organizational activity. Accounting education has focused primarily on teaching skills relating to the recording and processing of information; relatively less time has been spent on teaching individuals how to transfer and receive information. This latter skill is an ever-more important ingredient in a professional accountant's success. The demand by internal and external users for an increasing amount of information, as well as for an ever-increasing speed of delivery of that information, requires that accountants be able to transfer information to and receive from both human and electronic sources.

63. Tomorrow's professional accountants must have broad intellectual skills that enable them to solve structured and unstructured problems in changing environments. Accountants must possess the intellectual skills to (a) anticipate the emergence of, and recognize, business and accounting issues and problems; (b) find alternative resolutions of those issues and solutions to those problems; and (c) effectively communicate these alternatives to interested parties. This implies the existence of a much broader accounting curriculum than is found in many parts of the world. Technical accounting skills, which have been the focus of most accounting curricula, are no longer adequate by themselves; broader intellectual skills must be effectively integrated into the accounting curriculum.

64. Interpersonal skills are the third component of the broad set of intellectual skills that tomorrow's accountants must possess. Accountants must have the skills to work within groups, organize and delegate complex tasks, and motivate and supervise others. Increasing globalization will test accountants' interpersonal capabilities in more diverse groups.

65. The accounting curriculum of IFAC, which was mentioned earlier, represents a basic minimum that all accountants need to assimilate in order to become technically competent. However, as accountants move through the development stages, they need a broader knowledge base that includes coverage of organizational behaviour, and business and economic issues. While the variety in educational delivery systems will not permit the development at present of a common curriculum, most interested parties can agree on the common educational objectives that have been discussed in this report.

Classroom techniques

66. Developing the appropriate skills and knowledge requires classroom techniques that go beyond the common textbook-based, rule-intensive styles. Students' learning will be enhanced by the use of active learning models that increase involvement through simulations, case analyses and extended written assignments. The complexity of real global commerce must be mirrored in the materials used in the curriculum. This calls for a significant interaction between academics and practitioners. Where possible, curricula should strengthen learning by utilizing the desired skills and knowledge across courses.

A faculty to develop tomorrow's curriculum

67. Faculty are obviously a key to the successful education of tomorrow's accounting professional. Only a highly qualified and well-trained faculty can create and develop the required accounting curriculum. There are three models encompassing faculty training and backgrounds, and they are found in various parts of the world. Those models are described below, and advantages and disadvantages of each model are discussed.

The practitioner model

68. Faculty in the practitioner model spend most of their time in the practice of accounting. Their work as teachers constitutes a relatively small part of their responsibilities and is a collateral duty. Practitioner faculty often work within professional associations where they have the responsibility for technical and professional training. Most faculty of this type do not possess a Doctor of Philosophy (Ph.D.) or similar degree, but they may have a degree beyond that of bachelor.

69. The practitioner model is most likely to be found where the accounting profession is primarily at the individual practitioner or the pre-profession stage. Post-secondary education is limited, thus limiting the output of individuals with advanced degrees. However, this model is also found in countries in which the accounting profession is at a more advanced stage.

70. The practitioner model guarantees that the curriculum will have relevance to current practice. Where it may encounter difficulties is in the integration of general and technical knowledge and in the development of intellectual, interpersonal and communications skills. One risk of the emphasis on immediate relevance is that the education may focus too strongly on technical knowledge. In addition, practitioner faculty may have little time to develop relevant teaching materials. Furthermore, whatever accounting research is conducted tends to be bound pragmatically to the need to solve immediate professional problems. Little emphasis is likely to be given to developing theoretical concepts or focusing on the longer-term issues facing the profession.

The academic model

71. The academic model represents the other end of the spectrum. In this model, faculty can be described as truly academic in the sense that they have only university responsibilities centred on teaching, research and service. Furthermore, most of the permanent professorate have highest-level degrees, usually Ph.Ds in accounting or accounting-related fields. They may or may not have significant business or professional accounting experience. The academic model is quite common in the United States, Canada and Australia. It presumes that there exists a well-developed higher education system capable of producing individuals with advanced degrees.

72. The strengths of the academic model lie in its ability to integrate technical with general subjects in the post-secondary experience. It may also provide significant support to the profession through research conducted by professors.

73. One potential weakness of the academic model lies in its separation of the curriculum from the realm of practice. Educational systems that utilize academic faculty must find creative ways to guarantee the continued relevance of the material that is taught. Another potential weakness in the academic model involves the risk of underemphasis on instructional activities. In the

academic model, the priorities and mission of the university dictate the relative importance of teaching, of research and of service. For example, in a major university the research component of a professor's responsibilities may have higher priority than either teaching or service, whereas in a teaching institution the priority may shift towards teaching.

The clinical model

74. A middle ground between the academic and practitioner models can be found in the clinical model. Clinical faculty have more practice responsibilities than academic faculty and more academic responsibilities than practitioner faculty. The practice responsibilities help ensure the relevance of the curriculum and the academic ones foster integration of content and the development of pedagogic expertise. While the clinical model is often used in other professions, there are few examples of clinical accounting faculty. Several universities in the United States have expert practitioners who serve as clinical faculty.

75. Faculty, whether within universities, firms or professional organizations, are critical to the development of the accounting profession. With their skills, they attract and educate future generations of practitioners. The profession depends on an active, informed group of educators and must invest sufficient resources to create and maintain excellent teaching resources.

V. SUMMARY

76. The purpose of the present report is to stimulate the discussion of issues in the education of accountants. The first two sections examined how accountants contribute to economic activity within various stages of development, and discussed some of the problems faced by the accounting profession as it seeks to meet additional responsibilities and expectations. Educational needs, at different stages and with respect to meeting the future needs of the profession, were discussed in the third and fourth sections.

77. The accounting profession faces unprecedented challenges in its efforts to meet the growing needs for economic information in the next decade. It can only succeed if all the individuals and organizations that are concerned with accounting education share the responsibility for developing creative educational systems that can respond to increasingly complex issues.

Notes

1/ Foreign Aid Accountability: Perspectives of Donors and Recipients, Report of the Ninth United Nations/International Organization of Supreme Audit Institutions (INTOSAI) Expert Group Meeting on Government Auditing, 12-21 September 1990, Vienna.

2/ Dan. M. Guy and Jerry D. Sullivan, "The expectation gap auditing standards", Journal of Accountancy (April 1988), p. 36.

3/ "Accountancy: all change", The Economist (17 October 1992), p. 23.

4/ Ibid.

5/ Guy and Sullivan, loc. cit.

6/ See, for example, Perspectives on Education: Capabilities for Success in the Accounting Profession, issued jointly by Arthur Andersen & Company, Arthur Young, Coopers & Lybrand, Deloitte Haskins & Sells, Ernst and Whinney, KPMG Peat Marwick Main Company, Price Waterhouse and Touche Ross in April 1989 in the United States.

7/ The purpose of AECC is to promote and fund experimentation in accounting education. To date, AECC has funded 12 curriculum revision projects at various American colleges and universities. As most of those projects are still in process, their significance cannot be assessed as yet.

8/ Perspectives on Education ..., p. 5.

Annex

GLOSSARY

Academic faculty: instructors who have only university responsibilities

Business unit: any organization undertaking economic activity that requires accounting information. These vary in size from the simplest owner-managed enterprises carrying out production and retail activities to large transnational corporations

Clinical faculty: instructors who have significant teaching (and possibly research) duties concurrent with significant practice responsibilities

Continuing professional education: all formal training and education received after achieving minimum professional credentials

Non-relevant (course work): course work that does not directly support specific accounting responsibilities (for example, history, physics, language subjects). The term non-relevant may also be used to describe a graduate who has specialized in these areas.

On-the-job training: all informal education and training received as an integral part of discharging job responsibilities

Post-secondary education: university-level instruction in general and specific topics usually resulting in a baccalaureate qualification. See also tertiary education.

Practitioner faculty: instructors who have large practice responsibilities and whose participation in teaching is limited.

Pre-entry education: all education and training completed before entering the workplace

Primary education: first-level education directed at achieving basic skills and knowledge in general areas

Relevant (course work): course work that directly supports specific accounting responsibilities (for example, accounting, economic and business subjects). The term relevant may also be used to describe a graduate who has specialized in these areas

Secondary education: additional education in general areas equivalent to that resulting in a zero-level qualification or a high school diploma

Tertiary education: university-level instruction in general and specific topics usually resulting in a baccalaureate qualification. See also post-secondary education
